

# M100

## Ball Screw Drive, Slide Guide

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### General Specifications

Parameter	M100
Profile size (w × h) [mm]	108 × 100
Type of screw	ball screw with single nut
Carriage sealing system	self-adjusting steel cover band
Screw supports	number of screw supports to be specified by customer at order
Lubrication	lubrication of ball screw
Included accessories	none

### Performance Specifications

Parameter		M100
Stroke length (S max), maximum	[mm]	6000
Linear speed, maximum	[m/s]	1,6
Acceleration, maximum	[m/s <sup>2</sup> ]	8
Repeatability	[± mm]	0,05
Input speed, maximum ball nut units / composite nut units	[rpm]	4000 / 1500
Operation temperature limits	[°C]	-20 – 70
Dynamic load (Fx), maximum ball nut units / composite nut units	[N]	5000 / 2000
Dynamic load (Fy), maximum	[N]	3005
Dynamic load (Fz), maximum	[N]	3005
Dynamic load torque (Mx), maximum	[Nm]	117
Dynamic load torque (My), maximum	[Nm]	279
Dynamic load torque (Mz), maximum	[Nm]	279
Drive shaft force (Frd), maximum	[N]	1000
Drive shaft torque (Mta), maximum	[Nm]	45
Screw diameter (d <sub>0</sub> )	[mm]	25
Screw lead (p) ball nut units / composite nut units	[mm]	5, 10, 25 / 10, 25
Weight	[kg]	
of unit with zero stroke		12,87
of every 100 mm of stroke		1,42
of carriage		3,50
of option single screw support		1,86
of option double screw supports		4,42

<sup>1</sup> Value for the complete unit

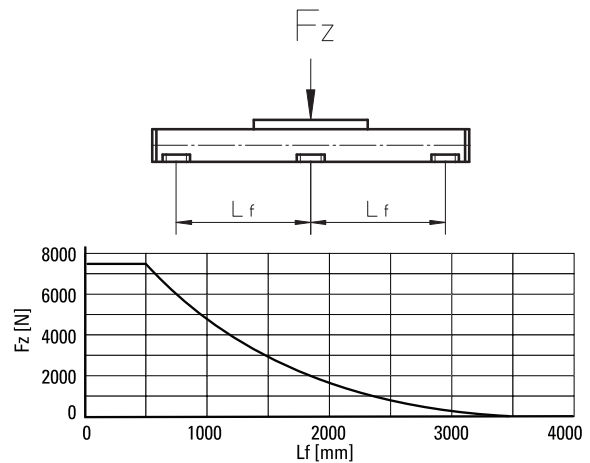
### Carriage Idle Torque (M<sub>idle</sub>) [Nm]

Input speed [rpm]	Screw lead [mm]				
	p = 5	p = 10	p = 10 <sup>1</sup>	p = 25	p = 25 <sup>1</sup>
500 - no screw supports	0,15	0,25	0,50	0,55	1,00
500 - with screw supports	0,25	0,40	0,80	0,85	1,30

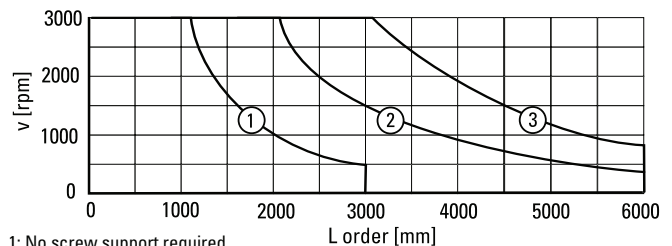
<sup>1</sup> Value for composite nut.

M<sub>idle</sub> = the input torque needed to move the carriage with no load on it.

### Deflection of the Profile



### Critical Speed



1: No screw support required

2: Single screw support required

3: Double screw supports required

### Definition of Forces

